

North Carolina's 2018 Energy Code

Key changes and requirements for Residential Mechanical Systems

Key Changes from Prior Code:

1. REScheck only available if targeting 2015 IECC (not for NC base code)
2. Thermal envelope requirements impacting overall sizing
3. Thermostats, heat pumps and supplementary electric heat systems
4. Duct testing procedures and leakage requirements
5. Duct insulation for conditioned vs. semi-conditioned spaces
6. New optional Energy Rating Index (ERI) Compliance pathway: Builder uses performance pathway via HERS rating, sign-off required by C.O.

Key Requirements to Look for:

1. Total duct leakage = 5 CFM per 100sf (5%) or 4% to outside
2. New homes must have complete Manual J, S & D before HVAC install
3. Existing homes must have block Manual J & S before HVAC install
4. Load calculations must be completed by licensed HVAC contractor or P.E.

Key Exemptions to Account for:

1. Duct leakage testing not required for systems serving less than 750sf

Additional Resources:

1. ICC site with [mechanical code](#) or codes.iccsafe.org/content/NCECC2018
2. [ACCA standards](#) or www.acca.org/standards
3. [Licensing Board](#) or www.nclicensing.org
4. [NCDOI codes](#) or www.ncdoi.com/osfm/Engineering_and_Codes.aspx

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North Carolina's 2018 Energy Code

Key changes and requirements for Commercial Mechanical Systems

Key Changes from Prior Code:

1. COMcheck only available if targeting 2015 IECC (not for NC base code)
2. New thermal envelope and air barrier requirements impacting overall sizing now require up-front design and prescriptive or testing verification
3. Cooling equipment must meet higher and more efficiency requirements
4. Each zone must have automatic controls that do not run during off-hours; exceptions for hospitals, some restaurants and hotels
5. Load calculations must include ERVs, if used, except for hospitals
6. Economizer requirements revised and expanded.
7. New compliance option for "Total Building Performance".
8. "Engineer to Engineer" exceptional calculation methods may be used.

Key Requirements to Look for:

1. Mixed occupancy: treat residential spaces as such, commercial as such
2. Mechanical commissioning is required; as-is a commissioning plan
3. Historic buildings do not have to meet the energy code
4. Projects changing unconditioned space to conditioned and costing more than \$10,000 require 10% of project cost towards meeting energy code

Key Exemptions to Account for:

1. 2013's HB201: *certain* building retrofits and renovations with original CO prior to 2012 only need to meet energy code in place as of 2011
2. 2016's SB131: *new* Factory, Storage and Utility buildings do not have to meet *any* energy code requirements
3. No insulation for direct buried piping that conveys fluids at or below 60°F

Additional Resources:

1. [ICC site with mechanical code](http://codes.iccsafe.org/content/NCECC2018) or codes.iccsafe.org/content/NCECC2018
2. [ASHRAE standards](http://www.ashrae.org/technical-resources) or www.ashrae.org/technical-resources
3. [NCDOT codes](http://www.ncdoi.com/osfm/Engineering_and_Codes.aspx) or www.ncdoi.com/osfm/Engineering_and_Codes.aspx